

EXHIBIT 1

Color Switch Comparison Chart

	Colorant	Color switch mechanism
<b>Molecular color switch (present invention)</b>	<b>A molecule or molecules designed to change structural conformation within an electric field.</b>	<b>The fundamental color absorption spectra of the molecule changes through an electric field induced conformation change of the molecule. The conformation change alters the HOMO-LUMO states (band gap) of the molecule, via <math>\pi</math>-electron localization / delocalization.</b>
<b>Microcapsule color switch (common to E Ink displays)</b>	<b>A 50-100 nm pigment housed in a colored liquid-filled 30-100 micron diameter microcapsule</b>	<b>The colorant moves electrophoretically within the microcapsule and within an electric field so that its position relative to the observer changes. The absorption spectra of the colorant does not change in this process.</b>
<b>Liquid crystal color switch (common to LCD displays)</b>	<b>A transparent crystallite dispersed in a liquid medium</b>	<b>The orientation of the crystallite changes via an electric field so that it aligns either parallel or perpendicular to a fixed polarizer placed parallel to the plane of the colorant. Light impinging the liquid and polarizer layers is either transmitted or blocked depending on the crystallite orientation. The absorption spectra of the colorant does not change in this process.</b>
<b>Organic LED color switch (common to OLED displays)</b>	<b>A molecule or pigment dispersed in a polymeric colorant layer sandwiched between polymeric electron and hole transport layers, respectively</b>	<b>An electron and hole pair are injected into the electron and hole transport layers, respectively, via an electric field. The electron and hole combine at the colorant within the colorant layer. Through combination, the colorant gives off a photon of a characteristic wavelength band. The absorption spectra of the colorant does not change in the process. The colorant is self-emissive (all other above colorants are non-emissive).</b>